

REMARKS

In paragraph 1 of the Office Action it is indicated that claims 19-24 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected method of manufacture. Applicant affirms this election.

In paragraphs 2-12 of the Office Action claims 1-6, 10-14 and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Fontana Jr. et al (US Patent Number 6999277), stating:

“4. The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

5. Regarding claim 1, Fontana Jr. et al disclose:

A magnetic head, comprising:

A first magnetic pole layer (figure 5, item 60);

A heating device being disposed above said first magnetic pole layer (figure 5, item 116);

A first magnetic pole pedestal member being disposed above said heating device (figure 15, item 64), such that said heating device is disposed between said first magnetic pole layer and said first magnetic pole pedestal (See figure 15).

Regarding independent claims 1 and 11, Applicant has amended these claims to include limitations that are not taught by nor obvious from Fontana '277. Specifically, Applicant has added limitations that identify the four electrical insulation layers that are created during the fabrication of the heating device. Particularly, owing to the heating device fabrication method of the present invention, as may be seen in Figs. 5-19 and described in the Specification, the heating device 128 is fabricated above, within and beneath various ones of the four electrical insulation layers 108, 154, 164 and 202 (as best seen in Figs. 13 and 19). In this regard, the prior art Fontana '277 teaches a heating element 116 that is disposed upon a first insulation 108 and encapsulated within a second insulation layer 150 (as is best seen in Figs. 6 and 7). This difference results from an ion milling or sputter etching step in Fontana '277 which removes insulation material in the field 144 that is unprotected by the mask 140, as described in col. 5, lines 15-18.

There is no ion milling or sputter etching step in the heating device fabrication steps of the present invention. The different fabrication steps between the present invention and the prior art result in the different heating device configurations that are now distinguished by the limitations that Applicant has incorporated into amended independent claims 1 and 11. Specifically, the different electrical insulation layer configurations of the present invention, as included in amended independent claims 1 and 11. Applicant therefore respectfully submits that amended independent claims 1 and 11 recite subject matter that is not taught by nor obvious from the cited prior art.

In paragraph 6 of the Office Action it is stated:

“6. Regarding claims 2 and 12, Fontana Jr. et al disclose:
A magnetic head as described in claim 1 wherein said heating device includes an electrically resistive heating element (column 2, lines 9-13).”

Responsive hereto, Applicant asserts that dependent claims 2 and 12 are allowable in that they depend from an allowable base claim 1 or 11 respectively.

In paragraph 7 of the Office Action it is stated:

“7. Regarding claim 3, Fontana Jr. et al disclose:
A magnetic head as described in claim 2 wherein said heating device includes a pair of electrical leads (figure 5, item 120), and wherein said electrically resistive heating element is disposed directly beneath said leads (See figure 5).”

Responsive hereto, Applicant asserts that dependent claim 3 is allowable in that it depends indirectly from an allowable base claim 1.

In paragraph 8 of the Office Action it is stated:

“8. Regarding claims 4 and 13, Fontana Jr. et al disclose:
A magnetic head as described in claim 3 wherein said electrically resistive heating element includes an outer edge (figure 4, item 124), and each of said electrical leads includes an outer edge, and wherein said outer edge of said electrically resistive heating element and said outer edges of said electrical leads are aligned in a plane (See figure 5).”

Responsive hereto, Applicant asserts that dependent claim 4 is allowable in that it depends indirectly from allowable base claim 1. Claim 13 has been cancelled

In paragraph 9 of the Office Action it is stated:

“9. Regarding Claim 5, Fontana Jr. et al disclose:
A magnetic head as described in claim 1 wherein a first electrical insulation layer (figure 5, item 108) is disposed between said first magnetic pole

layer and said heating device, and wherein a second electrical insulation layer (figure 11, item 150) is disposed between said heating device and said first magnetic pole pedestal (See figure 15).”

Claim 5 has been cancelled in this amendment.

In paragraph 10 of the Office Action it is stated:

“10. Regarding claims 6 and 14, Fontana Jr. et al disclose:

A magnetic head as described in claim 5 wherein said first electrical insulation layer is thicker than said second electrical insulation layer (When viewed longitudinally, the first layer is thicker than the second).”

Responsive hereto, Applicant asserts that dependent claims 6 and 14 are allowable in that they depend from an allowable base claim 1 or 11 respectively.

In paragraph 11 of the Office Action it is stated:

“11. Regarding claims 10 and 18, Fontana Jr. et al disclose:

A magnetic head as described in claim 8 wherein the magnetic head includes an air-bearing surface, and wherein said heating device is disposed away from said air bearing surface (figure 15, item 116 is set back from ABS).”

Responsive hereto, Applicant asserts that dependent claims 10 and 18 are allowable in that they depend either directly or indirectly from an allowable base claim 1 or 11 respectively.

In paragraph 12 of the Office Action it is stated:

“12. Regarding claim 11, Fontana Jr. et al disclose:

A hard disk drive including a magnetic head, comprising:

A read head element (figure 15, item 52);

A write head element (figure 15, item 72);

A media heating device (figure 15, item 116);

Wherein said write head element includes a first magnetic pole (figure 15, item 60) and a first magnetic pole pedestal (figure 15, item 64), and wherein said heating device is disposed between said P1 magnetic pole and said P1 pole pedestal (See figure 15).”

Responsive hereto, Applicant has amended independent claim 11 to recite limitations that are not taught by nor obvious from the cited prior art. Particularly, as discussed hereabove with regard to the rejection of independent claim 1, Applicant has amended independent claim 11 to recite the four insulation layers that are deposited in fabricating the heating device of the present invention. Applicant respectfully submits that amended independent claim 11 now includes limitations that are not taught by nor obvious from the cited prior art.

In paragraphs 13-16 of the Office Action claims 7-9 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fontana Jr., stating:

“15. Regarding claims 7, 8, 15 and 16, Fontana Jr. et al does not specifically disclose:

A magnetic head as described in claim 6 and 14 wherein said first electrical insulation layer is approximately 1,000 angstroms thick, and said second electrical insulation layer is approximately 250 angstroms thick.

A magnetic head as described in claim 2 and 12 wherein said electrically resistive heating element is a layer of electrically conductive material having a thickness of approximately 400 angstroms and having a track width of approximately 2 microns and a stripe height of approximately 0.5 microns.

However, it would have been an obvious matter of design choice to one of ordinary skill in the art at the time the invention was made when in the course of routine engineering optimization/experimentation to manufacture these widths and thicknesses for the pole and pedestal of the write head because these are well-known dimensions of magnetic write heads, and will also help to provide for optimal capacity on the disc.

Moreover, absent a showing of criticality, i.e., unobvious or unexpected results, the relationships set forth in claims 7, 8, 15 and 16 are considered to be within the level of one having ordinary skill in the art.

It furthermore has been held in such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range(s); see *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).

Moreover, the instant disclosure does not set forth evidence ascribing unexpected results due to the claimed dimensions; see *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338 (Fed. Cir. 1984), which held that the dimensional limitations failed to point out a feature which performed and operated any differently from the prior art.”

Responsive hereto, Applicant asserts that dependent claims 7, 8, 15 and 16 are allowable in that they depend either directly or indirectly from an allowable base claim 1 or 11 respectively.

In paragraph 16 of the Office Action it is stated:

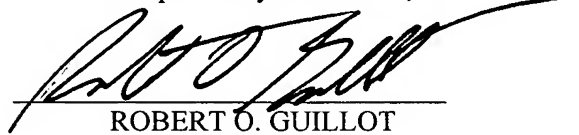
“16. Regarding claims 9 and 17, Fontana Jr. et al disclose:

A magnetic head as described in claims 8 and 16 wherein said electrically resistive heating element is comprised of NiCr or NiFe (column 2, lines 13-17).”

Responsive hereto, Applicant asserts that dependent claims 9 and 17 are allowable in that they indirectly depend from an allowable base claim 1 or 11 respectively.

Having responded to all of the paragraphs of the Office Action, and having amended the claims accordingly, Applicant respectfully submits that the Application is now in condition for allowance. Applicant therefore respectfully requests that a Notice of Allowance be forthcoming at the Examiner's earliest opportunity. Should the Examiner have any questions or comments with regard to this amendment, a telephonic conference at the number set forth below is respectfully requested.

Respectfully submitted,



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CERTIFICATE OF MAILING (37 CFR 1.8(a))

I hereby certify that this paper (along with any referred to as being attached or enclosed) is being deposited on August 1, 2005 with the U.S. Postal Service as first class mail in an envelope addressed to: MS Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Date: August 1, 2005


Patricia Beilmann